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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,571	03/11/2004	Akihiro Moto	033035M143	4805
7590 Smith, Gambrell & Russell Suite 800 1850 M Street, N.W. Washington, DC 20036			EXAMINER FORDE, DELMA ROSA	
			ART UNIT 2828	PAPER NUMBER
			MAIL DATE 03/14/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/797,571

**Applicant(s)**

MOTO, AKIHIRO

**Examiner**

DELMA R. FLORES RUIZ

**Art Unit**

2828

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-5 and 8-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida (6,301,278) in view of Crane, JR. et al (2003/0044128).

**Regarding claim 2**, Uchida discloses in Figure 11 and 12 a light-transmitting module, comprising: a stack of a metallic block (see Fig. 11, Character 25', Column 2, Lines 20 – 21), an insulating heat sink (see Fig. 11, Character 20) mounted on said metallic block and an electrically conductive layer (see Fig. 11, Characters 35' and 40') formed on said insulating heat sink, said stack forming a parallel-plate capacitor; and a laser diode (see Fig. 11, Character 30) having an anode and a cathode, said laser diode being mounted on said conductive layer such that said anode faces and is in contact with said

conductive layer (Column 1, Lines 31 – 34, Column 2, Lines 11 – 41 and Column 3, Lines 1 – 10).

Uchida disclose the claimed invention except for capacitor is at least 50pF. However, it is well known in the art to apply the capacitor is at least 50pF. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was to apply the well known the capacitor is at least 50pF, because could be used to accumulating and holding a small charge of electricity, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Uchida discloses the claimed invention except for heat sink includes a groove for securing an optical fiber. Crane teaches a heat sink includes a groove for securing an optical fiber. However, it is well known in the art to apply heat sink includes a groove for securing an optical fiber as discloses by Crane in (See Figure. 3, Character 70 and Figure, 8, and Paragraphs [0002 and 0058]). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was to apply the well known heat sink includes a groove for securing an optical fiber as suggested by Crane to the laser of Uchida, because could be used for communication of analog or digital signals see (Paragraphs [0002]) of Crane.



**Regarding claim 15**, Uchida discloses in Figure 11 and 12 a light-transmitting module, comprising: a stack of an electrically conductive heat sink (see Fig. 11, Character 25', Column 2, Lines 20 – 21), an insulating layer provided on said heat sink (21see Fig. 11, Character 20) and an electrically conductive layer (see Fig. 11, Characters 35' and 40'), said stack forming a parallel-plate capacitor; and a laser diode (see Fig. 11, Character 30) mounted having an anode and a cathode, said laser diode being mounted on said conductive layer such that said anode faces and is in contact with said conductive layer (Column 1, Lines 31 – 34, Column 2, Lines 11 – 41 and Column 3, Lines 1 – 10).

Uchida disclose the claimed invention except for capacitor is at least 50pF. However, it is well known in the art to apply the capacitor is at least 50pF. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was to apply the well known the capacitor is at least 50pF, because could be used to accumulating and holding a small charge of electricity, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Uchida discloses the claimed invention except for heat sink includes a groove for securing an optical fiber. Crane teaches a heat sink includes a groove for securing an optical fiber. However, it is well known in the art to apply heat sink includes a groove for securing an optical fiber as discloses by Crane in (See

Figure 3, Character 70 and Figure 8, and Paragraphs [0002 and 0058]). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was to apply the well known heat sink includes a groove for securing an optical fiber as suggested by Crane to the laser of Uchida, because could be used for communication of analog or digital signals see (Paragraphs [0002]) of Crane.

Claims 3, 4, 8, 9, are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida (6,301,278) in view of Crane, JR. et al (2003/0044128) further in view of Cohen (5,615,224).

***Regarding claims 3, 4, 8 and 9,*** Uchida in view of Crane discloses the claimed invention except for diode laser comprising an n-type and p-type substrate, cladding, active, anode and cathode. However, it is well know in the art to apply the n-type and p-type substrate, cladding, active, anode and cathode as discloses by Cohen in Figures 4 – 5, Column 9, Lines 32 – 56. Therefore, it would have been obvious to a person having ordinary skill in the art to apply the well know n-type and p-type substrate, cladding, active, anode and cathode as suggested by Cohen to the diode laser of Uchida, because these layer they are essential part of diode laser, that is could used to transmit certain type of coherent light (see Figure 4 – 5 of Cohen).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida (6,301,278) in view of Crane, JR. et al (2003/0044128) further in view of Kimizuka (6,633,598).

**Regarding claim 5**, Uchida discloses the claimed invention except for driver. However, it is well know in the art to apply the drive as discloses by Kimizuka in Column 6, Lines 10 – 11. Therefore, it would have been obvious to a person having ordinary skill in the art to apply the well know driver as suggested by Kimizuka to the diode laser of Uchida, because it could be used to guide the current of the laser (see Column 6, Lines 10 - 11 of Kimizuka).

Claims 10 – 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida (6,301,278) in view of Crane, JR. et al (2003/0044128) further in view of Cao (2002/0175352).

**Regarding claim 10 – 12**, Uchida discloses the claimed invention except for heat sink is mode of copper tungsten or silicon or selected from a group of silicon oxide or silicon nitride or silicon oxi-nitride. However, it is well known in the art to apply heat sink is mode of copper tungsten or silicon or selected from a group of silicon oxide or silicon nitride or silicon oxi-nitride as discloses by Cao in Paragraph [0149]. Therefore, it would have been obvious to a person having



ordinary skill in the art at the time the invention was to apply the well known for heat sink is made of copper tungsten or silicon or selected from a group of silicon oxide or silicon nitride or silicon oxi-nitride as suggested by Cao to the laser of Uchida, because these materials has a low thermal expansion rate and high thermal conductivity, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Claims 13 – 14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida (6,301,278) in view of Crane, JR. et al (2003/0044128) further in view of Chiappetta et al. (6,522,798).

***Regarding claims 13,*** Uchida discloses the claimed invention except for electrically conductive and grounded block. However, it is well know in the art to apply the electrically conductive and grounded block as discloses by Chiappetta in Column 4, Lines 24 – 29. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was to apply the well known electrically conductive and grounded block as suggested by Chiappetta to the laser of Uchida, because is used to making electrical connections and ground in the device.

***Regarding claims 14 and 17,*** Uchida discloses the claimed invention except for driver. However, it is well known in the art to apply a driver as discloses by Chiappetta in Column 6, Lines 13 –16. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was to apply the well known driver as suggested by Chiappetta to the laser of Uchida, because could be used to driving a laser array or a solid state laser low noise amplifier chip for driving external signal pats from light to electric converter elements, see Column 6, Lines 13 –16 of Chiappetta.

### ***Response to Arguments***

Applicant's arguments with respect to claims 2 – 5 and 8 – 17 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Delma R. Flores Ruiz whose telephone number is (571) 272-1940. The examiner can normally be reached on M - F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Min Sun Harvey can be reached on (571) -272-1835. The fax phone number for the organization where this application or proceeding is

assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Delma R. Flores Ruiz/  
Examiner, Art Unit 2828

/Minsun Harvey/  
Supervisory Patent Examiner, Art Unit 2828